

Application No. 10/647,656

Filed: August 25, 2003

TC Art Unit: 1724

Confirmation No.: 2132

AMENDMENTS TO THE SPECIFICATION

Please replace the paragraph beginning at page 6, line 24 of the specification and ending at page 7, line 6 with the following paragraph marked-up to show changes:

The structure of FIG. 2A can be used directly in this form as the composite filter element. The composite 16, in a preferred embodiment employs a second over sheet 80, provided on the surface of middle layer 62, opposite to the first cover sheet 66 ~~backing 12,~~ as shown in FIG. 2B. ~~Alternatively, a second cover sheet 14a can be provided over the backing layer 12, as shown in FIG. 2C.~~ The cover sheet can be a filtering or non-filtering non-woven polyester, polyamide or polypropylene material or other similar materials. If the cover sheet is a filtering material, it serves to provide some filtering of the air entering the composite structure for removal of particulate materials in the air stream. The cover can also serve to retain the porous acidic polymer material such as a sulfonated divinyl benzene styrene copolymer, which can be in bead form, within the middle layer or batting 62. The cover sheets can also be chemically inert materials such as polypropylene.

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Please replace the paragraph beginning at page 9, line 1 of the specification and ending at page 9, line 7 with the following paragraph marked-up to show changes:

Referring to Fig. 6, the middle air-laid polyester non woven ~~lay~~ layer 62 is collated to a cover sheet 66. The adsorbent particles 60 are positioned on a fiber matrix 62 from a fluidized bed 64. The sulfonated divinyl benzene styrene particles 60 are evenly stratified through the depth of the batting 62. As discussed above, an increased bed depth of adsorbent particles distributed throughout the batting is highly desirable as it increases residence time, creases exposure of the adsorbent particle surfaces, provides a low pressure drop, as well as substantially increasing the lifetime of the filter.